

# SDK-SPSD : 14443-A SDIO READER DEVELOPMENT KIT

pftc1201-aa.doc  
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Version : AA

## FEATURES

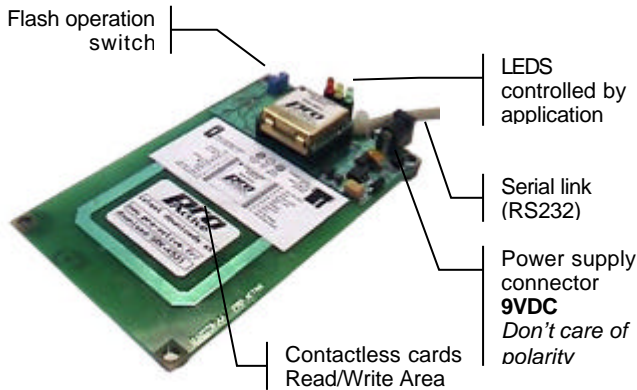
**Description**.....Development kit for the SpringProx-SD ISO14443-A SDIO Reader.  
**Order code** .....**SDK-SPSD**  
**Chipset**.....RC531 Philips®  
**ISO compliance**.....ISO14443-A/B  
**Compliance** .....MIFARE® Classic  
MIFARE® UltraLight  
MIFARE® Pro / ProX  
MIFARE® DESFire  
**LEDs**.....Controlled by application

### Including :

**1 x SP-SD01** .....ISO14443-A SDIO reader.  
**1 x CSB-4.2S**.....ISO14443-A Desktop reader.  
**2 x TAG-DESFIRE**.....DESFIRE contactless cards  
**2 x TAG-MIF4K**.....MIFARE® 4K contactless cards  
**2 x TAG-MIF1K**.....MIFARE® 1K contactless cards  
  
1 x Source code package  
3 x months of technical support  
( source code and technical support are available after registration. See **Registration** below)

## DETAILED VIEWS

**CSB-4.2S**.....ISO 14443-A desktop reader

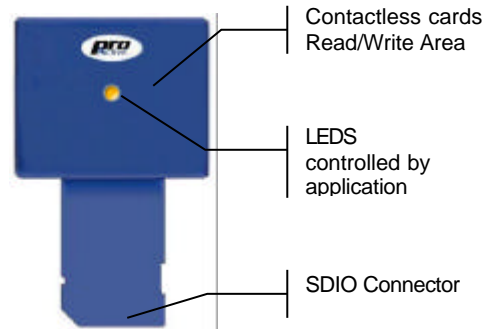


**Power supply** .....9V DC → 12V DC  
**Consumption**.....150mA  
**Reading range** .....0 cm → 6 cm (MIFARE 4K)  
**Temperature range**.....0°C → +45°C  
**Dimensions** .....L : 140mm, w : 85mm, h : 20mm  
**Weight**.....150 g  
**Connections** .....Power Jack  
Serial link cable (1.80m) with female SUB-D 9 points

### RS232 Parameters

Transmission Speed.....38400, 115200  
Parity .....none  
Data .....8  
Stop .....1

**SP-SD01**.....ISO 14443-A SDIO reader



**Power supply** .....Powered by host  
**Consumption**.....150mA  
**Reading range** .....0 cm → 2 cm (MIFARE 4K)  
**Temperature range**.....0°C → +45°C  
**Connections** .....SDIO Now

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## DATASHEET SDK-SPSD : 14443-A SDIO READER DEVELOPMENT KIT

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CSB-4.2S AVAILABLES COMMANDS

**Info**.....Retrieve version and RC chipset ID  
**poll**.....Poll for 14443-A tags (ESC to quit)  
**tag**.....Select Mifare or 14443-A tag  
**read**.....Read Mifare 1k or 4k tag  
**halt**.....Mifare or 14443-A halt command  
**reset**.....Reset the module  
**help**.....Display a list of some availables commands  
**rf\_on**.....Activate the RF field  
**rf\_off**.....De-activate the RF field  
**rc\_on**.....Open access to the RC chipset  
**rc\_off**.....Close access to the RC chipset  
**rc\_reset**.....Reset the RC chipset  
**rc\_config**.....Configure the chipset with startup values  
**tcl\_rats**.....Open a T=CL 14443-A session  
**tcl\_stop**.....Send the T=CL 14443-A « deselect »  
**tcl\_pps**.....Send a T=CL 14443-A PPS request  
**keys**.....Load default keys to RC RAM  
**keys\_e2**.....Load default keys to RC EEPROM  
**keys[A|B]n=(key\_data)**.....keys command immediatly followed by key type 'A' or 'B' and index of this key from '0' to 'F'.  
 (key\_data) can be 12 bytes in hexadecimal, or 6 letters.  
**regs**.....Display RC register values  
**led=RG[Y]**.....Control leds outputs, where R, G and optionnaly Y are to be replaced a number between 0 and 3 :  
**0** : Off    **1** : On    **2** : Fast blink  
**3** : Slow blink (for MOD-K531\_OEM)  
**3** : Default action (for MOD-K531\_CSB4)

**115200**.....Switch the module to high speed communication.  
**38400**.....Switch the module to normal speed communication.  
**const=(configuration\_structure\_data)**  
 Where the structure data is :  
Serial configuration BYTE

PBK	PNS	RFU	SBO	SOD	SEO	SNC	SHB	
MSB								LSB

**PBK**.....Blink LEDs before any action from host if set to 1  
**PNS**.....**WARNING ! CURRENT ACTION CAN NOT BE INTERRUPTED IF SET TO 1. ALWAYS SET THIS BIT TO ZERO.**  
**RFU**.....Reserved for future use.  
**SBO**.....Use binary protocol in bus mode only if set to 1  
**SOD**.....Don't use OSI protocol if set to 1  
**SEO**.....No serial echo if set to 1  
**SNC**.....Serial speed can't be changed by software if set to 1  
**SHB**.....Startup in high speed if set to 1

Address to be used in multi-point protocol BYTE

Action to be entered on startup BYTE

RFU BYTE

SEQUENCE EXAMPLES

**Read a tag**.....1 . Present a 14443-A or MIFARE® tag in the antenna area.  
 2 . **keys**  
 3 . **tag** → You should obtain specific data of your tag (Serial number, ATQ, SAK)  
 4 . **read** → You should obtain the content of the differents sectors of the tag.  
**Store a key**.....To store the key 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF as key B in position 2 :  
**keysB2=FFFFFFFFFFFF**  
**Configure LEDS**.....To switch on the green LED switch off the yellow LED and make the red LED blinking fast :  
**led=210**  
**Polling at Startup**.....To ensure a continuous polling of any tag at startup enter the following command then rebooting the module :  
**const=00004F00**  
**reset**  
**Recover default configuration**  
 Hit "Enter" key until ">" appears  
**const=00000000**  
**reset**

SOFTWARE OPERATIONS

The starter kit need the "SpringProx.dll" to operate with the samples applications. This DLL and demonstration softwares are availables on our web site at :  
<http://www.pro-active.fr/download/csb>

Availables samples applications are :

**MIFARE Tool**.....Allow you to select read / write your contactless cards.  
**Electronic Purse Tool**.Demonstration of counter on a MIFARE® 1K contactless card.

DOWNLOADS & REGISTRATION

To obtain 3 months technical support and the source code package, please fill the form at the web address :  
<http://www.pro-active.fr/myarea/sdk.php>

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